

MAXIMUM ATRIAL TRACKING RATE FOR CARDIAC RHYTHM MANAGEMENT SYSTEM

Abstract

5 A cardiac rhythm management system includes an operational mode in
which ventricular pacing pulses are delivered at a rate that tracks a sinoatrial rate up
to an appropriate maximum atrial tracking rate (MATR) value determined by the
system. In one example, the MATR value is based on a patient activity level and a
hemodynamic maximum rate (HMR) determined from a QRS-to-S₂ interval, where
S₂ is an accelerometer-generated fiducial correlative to aortic valve closure (AVC).
In a further example, a correlation between the QRS-to-S₂ interval and heart rate is
established, and the MATR is based on the patient activity level and heart rate. In a
10 further example, a lower rate threshold for providing antitachyarrhythmia therapy is
modified based on the MATR. For example, when the MATR exceeds a default
value of the antitachyarrhythmia therapy lower rate threshold, the threshold tracks
the MATR. In another example, the MATR is based on an active time between a
QRS complex and a heart impedance signal maximum slope during the same cardiac
15 cycle.

"Express Mail" mailing label number: EL709307132US

Date of Deposit: October 19, 2001

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